their career and the assurance of a good income for the meagre appointments as an official. It is sufficient just to glance at the statistics of the Russian Empire in order to realize what a gigantic increase in the development of civilization was reached by the effort of the Russian intellectuals and specialists. Public instruction had developed in these fifty years to an enormous extent, infant mortality had fallen by more than 60 per cent, epidemics had experienced a great fall, as also cattle diseases, and the yield of the land had increased in the southern regions by more than 30 per cent. The improvement of the different breeds of horses and cattle was already evident on the eve of the Great War.

The backward country which Russia was supposed to be in the eyes of Westerners, including also the Ukraine, had in 1912 a big network of telephone lines in the country and especially in the region of Vinnitza, where the organization of the Zemstvos was especially active.

As to the river system, as we have already seen, it is very poor and is limited to four rivers, the Dnieper, the Dniester, the Boug, and the Donietz, of which the Dnieper alone is of any interest. The transport capacity of this one important river has been for ever spoiled by the rapids which make navigation impossible along a considerable distance. It is only after the building of the *Dnieprogues*, whose gigantic barrage had submerged the rapids along a distance of about one hundred kilometres, that an uninterrupted river route was established, linking the upper Dnieper with the Black Sea.

This river drains the greater part of the Ukraine and has left its mark upon the whole historic and economic evolution of the country.

Before the Great War the annual tonnage of transports

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The construction of light railways in agricultural districts would be of great benefit to the country, but no steps have as yet been taken towards this end.

(*d*) *Posts, Telegraphs, and Telephones*

In organization the Russian postal system much resembles that of other European countries, but in extent it is considerably below the average standard. Rural districts are poorly served, although a special effort to improve their facilities has recently been made. Russia is a member of the Universal Postal Union.

Owing to delay and loss of ordinary correspondence, an immense quantity is sent by registered post, especially commercial correspondence, but also newspapers and periodicals.

Parcel post and the sending of goods 'cash on delivery' are in working, but the regulations as to packing, &c., are minute and very vexatious, though necessary to prevent theft in transit.

The facilities for transmitting money through the post are freely made use of, particularly by peasants working at a distance from their homes. In 1910 there were over 40,000,000 dispatches of this kind, their total value being upwards of £200,000,000.

Telegraphs.—Of the total length of telegraph wire for public use in Russia, more than one-third is owned by the private railway companies, the remainder by the postal department. Charges are low, but the service is moderate. Much use is made of 'urgent' telegrams at triple rates to ensure prompt and correct delivery.

Telephones.—The telephone system is fairly well developed in towns in the Ukraine. Private enterprise first entered the field, a company worked by the Bell Telephone Syndicate obtaining a concession for an installation at Odessa in 1895. Shortly afterwards the State established systems at Kiev, Kharkov, and other towns. Still later the *zemstvos* in certain districts interested themselves, and many systems

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206 471 have been opened and worked under their auspices and control. The most notable development has been in the districts of Bakhmut (Government of Yekaterinoslav), Lebedyenski (Kharkov), and Lokhivitski (Poltava). Mariupol and district has communication with Bakhmut and other places on the Donets coalfield. Otherwise trunk communication is confined to a line connecting Odessa, Nikolaev, and Kherson.

The instruments of private telephone installations are usually of the Bell Co.'s make. The State and the *zemstvos* have generally installed instruments made by Ericsson, Stockholm.

(2) External

(*a*) *Ports*

504 *Accommodation.*—The Ukraine is not lacking in good natural ports on the Black Sea: Odessa, Nikolaev, and Kherson are capable of handling great quantities of traffic. On the Azov Sea, Berdyansk and Mariupol share the trade, but in their case purely artificial harbours have had to be constructed at great expense, as the coast has no natural harbour.

There are no tides, any variations of depth of water being caused by wind of great force or long persistence from one quarter.

Odessa is the most frequented port of the Russian Black Sea coast. There is a good depth of water in the bay, but it is much exposed to the two most dangerous winds which blow on the coast, viz. the south and the south-east. The outer harbour is formed by a mole known as the eastern mole, which has a curve to the eastward, and a detached breakwater 1,400 yds. in length parallel with the shore. The eastern entrance has 24–30 ft. of water, and the western 17 ft., and both have an entrance width of 300 yds. This outer harbour is safe from all winds, and gives commodious anchorage.

The inner harbour is formed by five moles which divide it into four parts. The two western moles

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The Russian Danube Steam Navigation Co. traded from Odessa to Danube river ports. It had a fleet of eleven vessels, with a tonnage of 9,000.

The following foreign lines had regular sailings to Odessa: Thos. Wilson, Sons & Co., thrice weekly, from Hull; J. R. Ellerman, Ltd., fortnightly, from Liverpool; James Moss & Co., every four weeks, from Liverpool; the Messageries Maritimes, fortnightly, from Marseilles; and the Deutsche Levante Linie, monthly, from Genoa.

Tramp steamers of many nationalities are attracted in great numbers to Ukraine ports in the autumn for the shipment of the cereal crop, and there is seldom any lack of cargo space.

The foreign lines with regular services appear capable of meeting the normal demand on their cargo space. The Russian lines require Government support, as shipping under the Russian flag is not as a rule commercially successful.

(c) *Telegraphic Communication*

Telegraphic communication with foreign countries is dependent mainly on cable lines not situated in the Ukraine, which has only one cable, from Odessa to Constantinople, the joint property of the Indo-European Telegraph Co. and the Eastern Telegraph Co. Telegrams for the East are sent *via* the Kertch station of the Indo-European Telegraph Co.; those for northern Europe or America, *via* Petrograd and thence by various cable lines.

(B) INDUSTRY

(1) Labour

(a) *Supply of Labour; Emigration and Immigration*

The line of cleavage between agricultural and other labour is not so sharp in the Ukraine as in most other communities. The claims of agriculture are the greater by far, but the increase in the number of landless peasants who find it difficult to live in the country